

**Notice of Allowability**

Applicati n No.

10/039,235

Applicant(s)

SIMMONS ET AL.

Examiner

Art Unit

Rita Leykin

2837

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to \_\_\_\_.
2. ☒ The allowed claim(s) is/are 1-8.
3. ☒ The drawings filed on 31 December 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_.

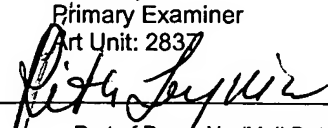
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachm nt(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 9/9/02
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_.

Rita Leykin  
Primary Examiner  
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### **REASONS FOR ALLOWANCE**

1. The following is an examiner's statement of reasons for allowance. The prior art made of record in the attached form PTO-892 considered to be pertinent to the submitted application.

Lewis US# 5,854,877 discloses a speed control system for a brushless dc motor. Wherein the motor is able to rotate at low speeds by having a filtered signal generated by an encoder applied to its inputs. The encoder is coupled to a series of filters to remove harmonic distortions from the resulting encoder signal, and wherein the filtered signals are then applied to the motor to control motor rotational speed.

Minnich et al. US# 5,187,417 disclose an apparatus for controlling brushless dc motors including digital velocity loop control, to produce current commands at high frequency loop closure interval.

Daggett US # 4,894,598 teaches digital rotor control having an improved pulse width modulation that is provided for digital implementation of robot control commands. The system provides time stabilized current sampling synchronized to the sampling frequency of the position and velocity loop in the robot control.

However, none of the prior art teaches or suggest the claimed limitations in the required combination including:

- A velocity calculation circuit that receives a first sampled digitized signal indicative of resolver position at a first time and a second sampled digitized signal indicative of resolver position at the second time, and determines velocity based upon the difference between said first and

second sampled digitized signals and provides a sensed digitized velocity signal indicative thereof;

- A commutation logic circuit that receives the first sampled digitized signal, the velocity magnitude signal and velocity polarity signal and provides velocity command signal;
- A counter that receives a signal indicative of sensed digitized velocity signal and provides PWM output signal;
- And filter that receives PWM output signal and generates the velocity feedback signal.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rita Leykin whose telephone number is (571)272-2066. The examiner can normally be reached on Monday-Friday 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi can be reached on (571)272-2071. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Rita Leykin  
Primary Examiner  
Art Unit 2837

A handwritten signature in black ink, appearing to read "Rita Leykin", written in a cursive style.

R.L.